

# INDIANA DEPARTMENT OF TRANSPORTATION

## INTER-DEPARTMENT COMMUNICATION Standards Section -- Room N642

June 22, 1998

### DESIGN MEMORANDUM No. 9804 POLICY CHANGE

**TO:** All Design, Operations, and District Personnel, and Consultants

**FROM:** /s/ Richard VanCleave  
Richard VanCleave  
Design Policy Engineer  
Technical Services Division

**SUBJECT:** Pile Loads Table

**EFFECTIVE:** November 17, 1998, Letting

**SUPERSEDES:** Bridge Design Memorandum No. 251 Revised, dated April 1, 1997

The ultimate load (bearing) shall be shown in a table on the Soil Borings Sheet in the plans. This information will help ensure that pile driving efforts during the construction process will result with a foundation adequate to support the design loads. The information to be included in the table is as follows:

ALLOWABLE DESIGN LOAD	- the maximum allowable load from design computation
LOAD FACTOR	- 2.5, unless otherwise instructed by Geotechnical Section
FACTORED DESIGN LOAD	- allowable design load multiplied by load factor
SCOUR ZONE FRICTION	- from Geotechnical Report
DOWN DRAG FRICTION	- from Geotechnical Report
ULTIMATE LOAD (BEARING)	- sum of Factored Design Load, Scour Zone Friction, and Down Drag Friction
TESTING METHOD	- by Formula from Standard Specifications Section 701.06. By Dynamic Pile Load Test or by Static Pile Load Test

The ULTIMATE BEARING shall be shown on the elevation view of the General Plan using a notation similar to the following: "Piling driven to \_\_\_\_\_ kN ultimate bearing to bedrock." This notation shall match the ultimate load shown on the Soil Borings Sheet. It will not be necessary to show the ultimate bearing on other detail sheets.

The Materials and Tests Division has established a new refusal criterion for H piles in bedrock. H piles will no longer be driven "to refusal." They will instead be driven to the required to the ultimate bearing in bedrock. If the geotechnical report shows the elevation of the top of the bedrock, it must be shown on the elevation view of the General Plan.

Geotechnical reports which were prepared before October 1, 1996 may specify a load factor of 2.0. For such reports, the designer must check with the Materials and Tests Division's Geotechnical Section to verify the correct load factor to use.

The information for piles shall be placed on the plans in the example format as follows:

PILE LOADS

BENT	No. 1	No. 2	No. 3	No. 4
ALLOWABLE DESIGN LOAD	360 kN	490 kN	620 kN	360 kN
FACTOR OF SAFETY	2.5	2.5	2.5	2.5
FACTORED DESIGN LOAD	900 kN	1225 kN	1550 kN	900 kN
SCOUR ZONE FRICTION	0 kN	30 kN	30 kN	0 kN
DOWN DRAG FRICTION	55 kN	0 kN	0 kN	0 kN
ULTIMATE LOAD (BEARING)	955 kN	1255 kN	1580 kN	900 kN
TESTING METHOD	by Formula, Standard Specifications 701.06			

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